Rain Garden Design & Evaluation

"Design Guidelines for Stormwater Bioretention Facilities" (Atchison and others) published by WRI and the UW-Madison Department of Civil and Environmental Engineering, provides design guidelines and a numerical model (RECARGA) that can be used for creating bioretention facilities for small-scale stormwater management. The system promotes infiltration of stormwater in order to reduce its volume, improve its quality and increase groundwater recharge. A basic bioretention facility is commonly referred to as a rain garden. It is a landscaped garden in a shallow depression that receives stormwater from nearby impervious surfaces. The model, which was based on WRI supported research (Potter, 2002), is now recommended by the Wisconsin Department of Resources (DNR) for use in meeting its new stormwater infiltration regulations. The manual is available free of charge on the DNR website (http://dnr.wi.gov/topic/Stormwater/raingarden/). The manual continues to be extremely popular at the UW Aquatic Sciences Center Publications Store. The entire run of 502 printed copies was distributed between FY07 and FY10. The document continues to be popular with 959 electronic downloads in FY13 bringing the total number of electronic downloads to 26,400 since FY07.

References:

Atchison, D., K. Potter, and L. Severson. 2006. Design Guidelines for Stormwater Bioretention Facilities. Water Resources Institute Publication # WIS-WRI-06-01.

Potter, K. 2002. Field Evaluation of Rain Gardens as a Method for Enhancing Groundwater Recharge. Final report to UWS for project number WR01R002.

Potter, K. 2005. Design and Evaluation of Rain Gardens for Enhancement of Groundwater Recharge. Final report to UWS for project number WR03R001.